UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,981	03/17/2004	Darko Kirovski	MS1-1934US	3895

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LEE & HAYES PLLC
421 W RIVERSIDE AVENUE SUITE 500
SPOKANE, WA 99201

EXAMINER
DEBNATH, SUMAN

ART UNIT	PAPER NUMBER
2135	

NOTIFICATION DATE	DELIVERY MODE
05/23/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhptoms@leehayes.com

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>17 March 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-32</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-32</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :04/16/2004, 08/06/2004, 05/06/2005, 12/02/2005, 05/16/2006, 08/15/2006.

DETAILED ACTION

1.   Claims 1-32 are pending in this application.

2.   Examiner has pointed out particular references contained in the prior arts of

record in the body of this action for the convenience of the applicant. Although the

specified citations are representative of the teachings in the art and are applied to the

specific limitations within the individual claim, other passages and figures may apply as

well. Applicant should consider the entire prior art as applicable as to the limitations of

the claims. It is respectfully requested from the applicant, in preparing the response, to

consider fully the entire references as potentially teaching all or part of the claimed

invention, as well as the context of the passage as taught by the prior arts or disclosed

by the examiner.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.   Claims 1-12, 14-32 are rejected under 35 U.S.C. 102(b) as being anticipated by

Kaish et al. (Patent Number: 5,974,150), hereinafter "Kaish".

5.   As to claim 1, Kaish discloses a method comprising: determining randomly

distributed features in an object (column 12, lines 1-32, "The fibers are randomly and

non-deterministically embedded into or form a part of a substrate", see also column 9,

lines 45-65, column 16, lines 27-45); compressing data representing the randomly

distributed features (column 28, lines 10-15, also see claim 8); encoding the

compressed data with a signature (abstract, column 9, lines 55-65, column 21, lines 35-

47, column 11, lines 15-32); and creating a label that includes the object and the

encoded data (column 16, lines 25-45, column 9, lines 10-45).

6.   As to claim 15 and 28, these are rejected using the same rationale as for the

rejection of claim 1.

7.   As to claim 22, Kaish discloses a label comprising: an authentication object

including randomly distributed features (column 12, lines 1-32); and encoded

information associated with the authentication object (abstract, column 9, lines 55-65,

column 21, lines 35-47, column 11, lines 15-32), the information being encoded with a

signature and including compressed data representing the randomly distributed features

in the authentication object (abstract, column 9, lines 55-65, column 21, lines 35-47,

column 11, lines 15-32), wherein the label is self-authenticated by comparing the

compressed data in the encoded information and the data representing the randomly

distributed features obtained by analyzing the authentication object (column 27, lines

25-65 and column 28, lines 14-20).

8.   As to claims 2, 16, 23 and 30, Kaish discloses wherein compressing the data

includes: determining a probability density function associated with the object (column

15, lines 1-10); determining vectors associated with the randomly distributed attributes

based, at least in part, on the probability density function (column 12, lines 1-12, column

18, lines 20-45); and encoding the vectors using an arithmetic coding algorithm (column

18, lines 20-45).

9.   As to claim 3, Kaish discloses wherein encoding the vectors using the arithmetic

coding algorithm includes determining a path for connecting a portion of the vectors

within a fixed amount of data (column 23, lines 4-17).

10.   As to claims 4 and 29, Kaish discloses wherein the randomly distributed features

are fibers that are randomly positioned in the object (column 12, lines 1-32, column 9,

lines 45-65, column 16, lines 27-45).

11.   As to claim 5, Kaish discloses wherein the probability density function represents

a probability that fibers in the particular region are illuminated by a light source (column

12, lines 10-32, "the fiber pattern, which is completely random, is illuminated by a

light..").

12.   As to claim 6, Kaish discloses wherein the probability density function is derived

based, at least in part, on the length of the fibers (abstract, column 15, lines 39-52).

13.   As to claim 7, Kaish discloses wherein each vector represents the end points of

two fibers (column 18, lines 35-45).

14.   As to claim 8, 17 and 25, Kaish discloses wherein the data is encoded with a

private key (column 11, lines 15-32).

15.   As to claim 9, Kaish discloses wherein the label is a certificate of authenticity

configured to be self-authenticated (column 9, lines 45-65) and wherein the object is an

authentication.object included in the certificate of authenticity (column9, lines 45-65).

16.   As to claims 10, 18 and 24, Kaish discloses wherein the encoded data is

included in the label as a barcode (column 27, lines 30-40).

17.   As to claims 11 and 31, further comprising: determining textual data that includes

a string of characters (column 11, lines 15-33, column 12, lines 50-62 and column 16,

lines 25-45); hashing the textual data with an algorithm (column 11, lines 15-33, column

12, lines 50-62 and column 16, lines 25-45); encrypting the compressed data using the

hashed textual data; and including the textual data in the label (abstract, column 11,

lines 15-33, column 12, lines 50-62 and column 16, lines 25-45, column 13, lines 39-

60).

18.   As to claims 19, 20, 26 and 27, these are rejected using the same rationale as for

the rejection of claim 11.

19.   As to claim 12, Kaish discloses wherein the algorithm is a cryptographically

secure hash algorithm (column 12, lines 50-62).

20.   As to claim 14, Kaish discloses one or more computer-readable memories

containing instructions that are executable by a processor (FIG. 2).

21.   As to claim 21, Kaish discloses a verifier configured to decode the data

representing the randomly distributed features in the label and to authenticate the label

by comparing the decoded data with the data of the actual randomly distributed features

determined from the authentication object (column 27, lines 25-65 and column 28, lines

14-20).

22.   As to claim 32, it is rejected using the same rationale as for the rejection of claim

21.

Claim Rejections - 35 USC § 103

23.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

24.   Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaish in

view of Palliyll et al. (US 2005/0131900 A1), hereinafter "Palliyll".

25.   As to claim 13, Kaish doesn't explicitly disclose wherein the algorithm is an SHA1

cryptographical algorithm. However, Palliyll discloses an SHA1 cryptographical

algorithm ([0051]).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention was mad to modify the teaching of Kaish by using SHA1

cryptographical algorithm as taught by Palliyll in order to provide enhance security of the

encrypted data.

Conclusion

26.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. See accompanying PTO 892.

- US 7,089,420 B1 – Authentication method and system

- US 7,152,047 B1 –System and method for production and authentication of original document

- US 5,388,158 – A document secure against tempering or alteration

- US 6,035,914 – Counterfeit-resistant materials

- US 7,010,167 B1 – Probability density functions

27.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suman Debnath whose telephone number is 571 270 1256. The examiner can normally be reached on 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on 571 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.
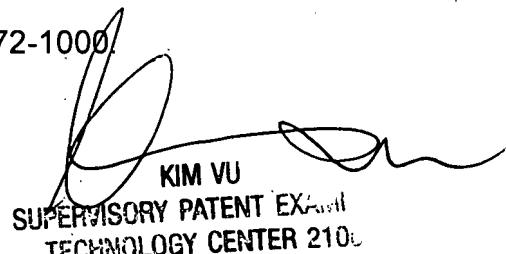
KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100